

REMARKS

The present invention relates to a method for producing a resin fine particle.

Claims 1 - 20 are pending, claims 2 and 10 - 20 are withdrawn, and claims 3 - 9 are rejected. In the Office Action of March 21, 2008, claims 1 and 3 - 9 were objected to as awkwardly worded; furthermore claims 1 and 3 - 9 were rejected under 35 U.S.C. § 102(b) as anticipated by Goto et al (JP 2003 - 268119).

An Amendment was filed on July 21, 2008, in response to the Office Action of March 21, 2008. In a further Office Action on November 3, 2008, the Examiner asserted that the proposed Amendment was non-responsive because it effectively changed the subject matter of the elected claims to the subject matter of the non-elected claims. Therefore, it is understood that the Amendment of July 21, 2008, was not entered, so the present claims do not reflect any changes from the Amendment of July 21, 2008.

In response of the Office Action of March 21, 2008, claim 1 has been amended to further identify what Applicant regards as the invention. Support for this amendment is found, for example, at page 11, lines 5 - 17. Claim 1 has also been amended to revise awkward wording, as suggested by the Examiner. Claim 20 is canceled. Claim 21 is newly added and directed to a preferred embodiment of claim 1.

No new matter is added.

Objection

On page 3 of the Office Action, claims 1 and 3 - 9 were objected to as awkwardly worded.

Applicant respectfully submits that the above amendments obviate this objection.

Rejection under 35 U.S.C. § 102

On page 4 of the Office Action, claims 1 and 3 - 9 were rejected under 35 U.S.C. § 102(b) as anticipated by Goto et al (JP 2003 - 268119) (“Goto”).

Applicant respectfully traverses.

Applicant respectfully submits that the presently claimed invention is not anticipated by Goto, because Goto does not disclose all the requirements of the present claims. Claim 1 recites, in relevant part, “a step 2 of decreasing the temperature and the pressure of the fluid to a normal temperature and normal pressure, while maintaining an air-tight state.” Goto does not disclose decreasing the temperature and pressure while maintaining an air-tight state; rather, Goto discloses spraying polyethylene through a nozzle, as explained in more detail below.

When the fluid of the present claims reaches a supercritical state or subcritical state, the fluid has both the diffusivity of a gas and the solubility of a liquid. Accordingly, even if it is a poor solvent to a resin at a normal temperature and normal pressure, the fluid can be a good solvent in a supercritical or subcritical state and thus the fluid can dissolve and diffuse the resin

therein. After that, when the temperature is decreased and the pressure is released, the fluid again becomes a poor solvent, which causes the resin to precipitate. Since the resin is dispersed to a remarkably high extent while the fluid is in the supercritical or subcritical state, it is supposed that the precipitated resin is extremely small and almost completely spherical owing to the surface tension. Please see page 5, lines 22 - 34 of the specification.

To achieve this advantage, step 2 of amended claim 1 recites "decreasing the temperature and the pressure of the fluid to a normal temperature and normal pressure, while maintaining an air-tight state" because the fluid must be air cooled or cooled with water without releasing the fluid before it becomes sufficiently cooled.

With the method for producing a resin fine particle of this invention, a suspension of the resin fine particles can be obtained. The resin fine particles in the obtained suspension have a very small average particle diameter (1 μm or smaller), almost complete sphericity (a sphericity of 1.25 or lower) and a very narrow particle diameter distribution (CV value of the particle diameter is 5% or lower). Please see Table 1 on page 28 of the specification.

Goto discloses a manufacturing method for a granular material, mixing a gas or supercritical fluid and a polymer under a high pressure atmosphere, and grinding said polymer into a mixture by rapidly lowering pressure and temperature to generate a resin powder. See abstract of Goto. However, in Goto, the polymer powder is produced by injecting the polymer into a sealed high pressure vessel 1, charged with carbon dioxide through a liquid feed pump 2, mixing the crosslinked polyethylene under a high pressure atmosphere, followed by discharging

these into the air (the atmosphere) of a room-temperature atmospheric-pressure condition through a nozzle "1a" as shown in Drawing 1 and at the same time, crushing the crosslinked polyethylene using the volume expansion caused by the rapidly reduced pressure and temperature. See abstract, column 0009, and Figure 1 in Goto. The solution in Goto, which includes a supercritical fluid solvent and a polymer, must jet out from the nozzle.

Applicant respectfully submits that Goto does not disclose step 2. Without step 2, it may be possible to obtain resin fine particles. However, it is impossible to obtain a resin of fine particles which have all of (1) a very small average particle diameter, (2) almost complete sphericity, and (3) a very narrow particle diameter distribution.

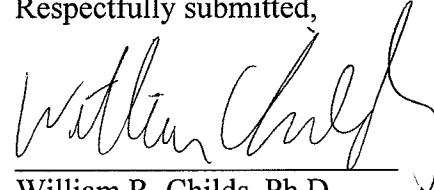
Thus, it is seen that the presently claimed invention and Goto are quite different from each other.

In view of the above, reconsideration and allowance of examined claims 1 and 3 - 9 of this application are now believed to be in order, and such actions are hereby earnestly solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local Washington, D.C. telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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